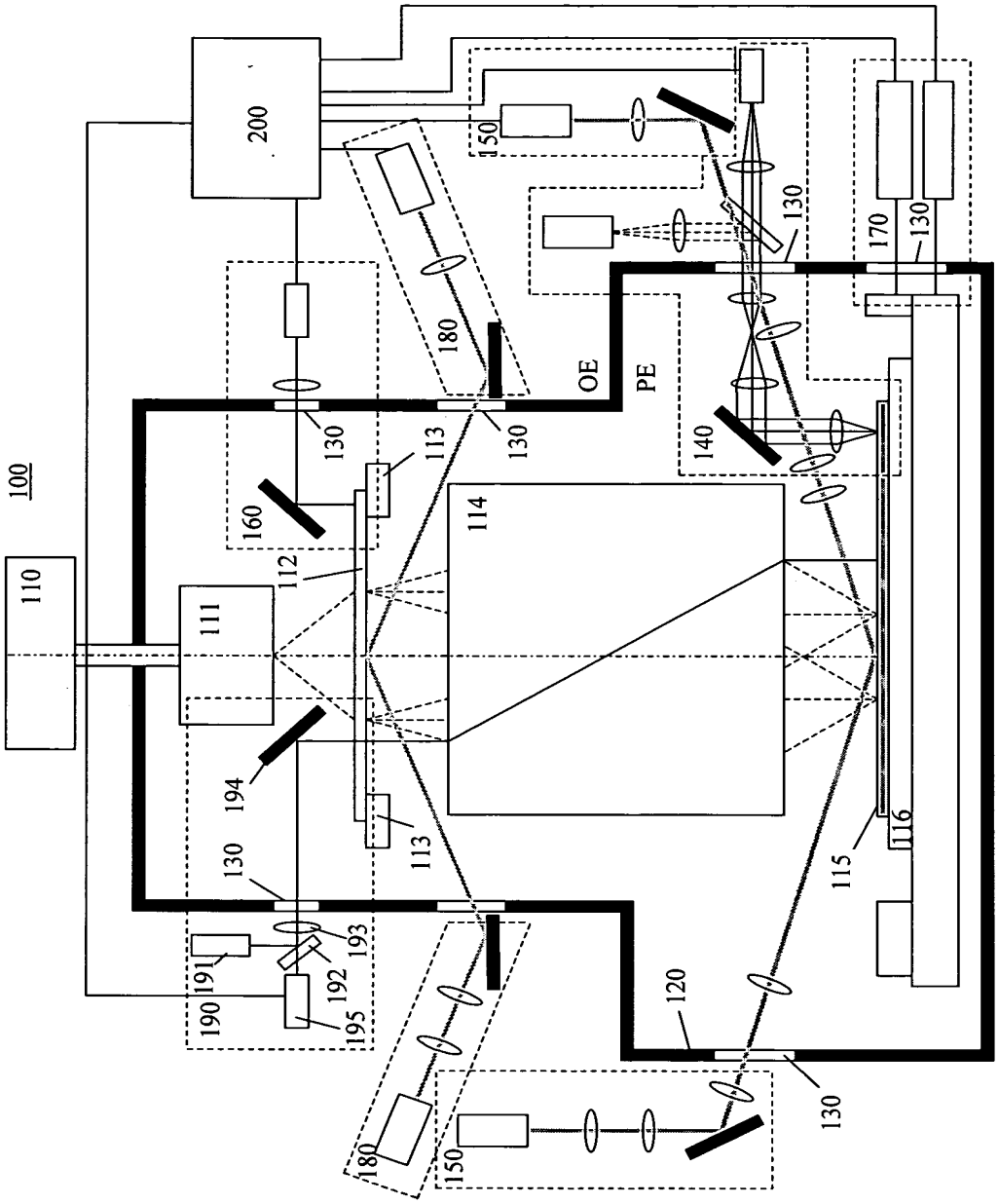

100
110
111
112
113
114
115
116
120
130
140
150
160
170
180
190
191
192
193
194
195
200
OE
PE

FIG. 1

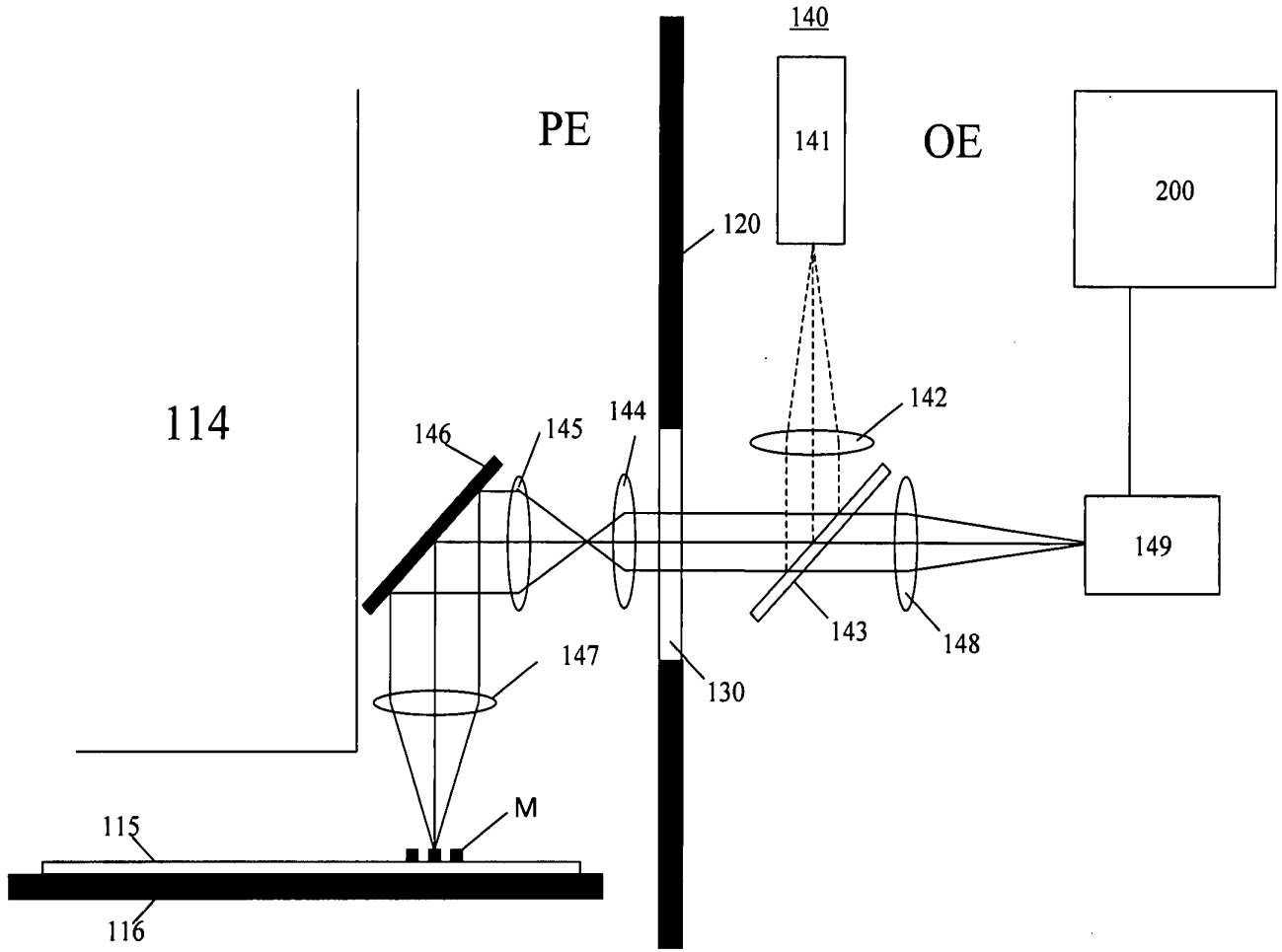

140
141
PE
OE
200
120
114
142
146
145
144
149
143
148
147
130
M
115
116

FIG. 2

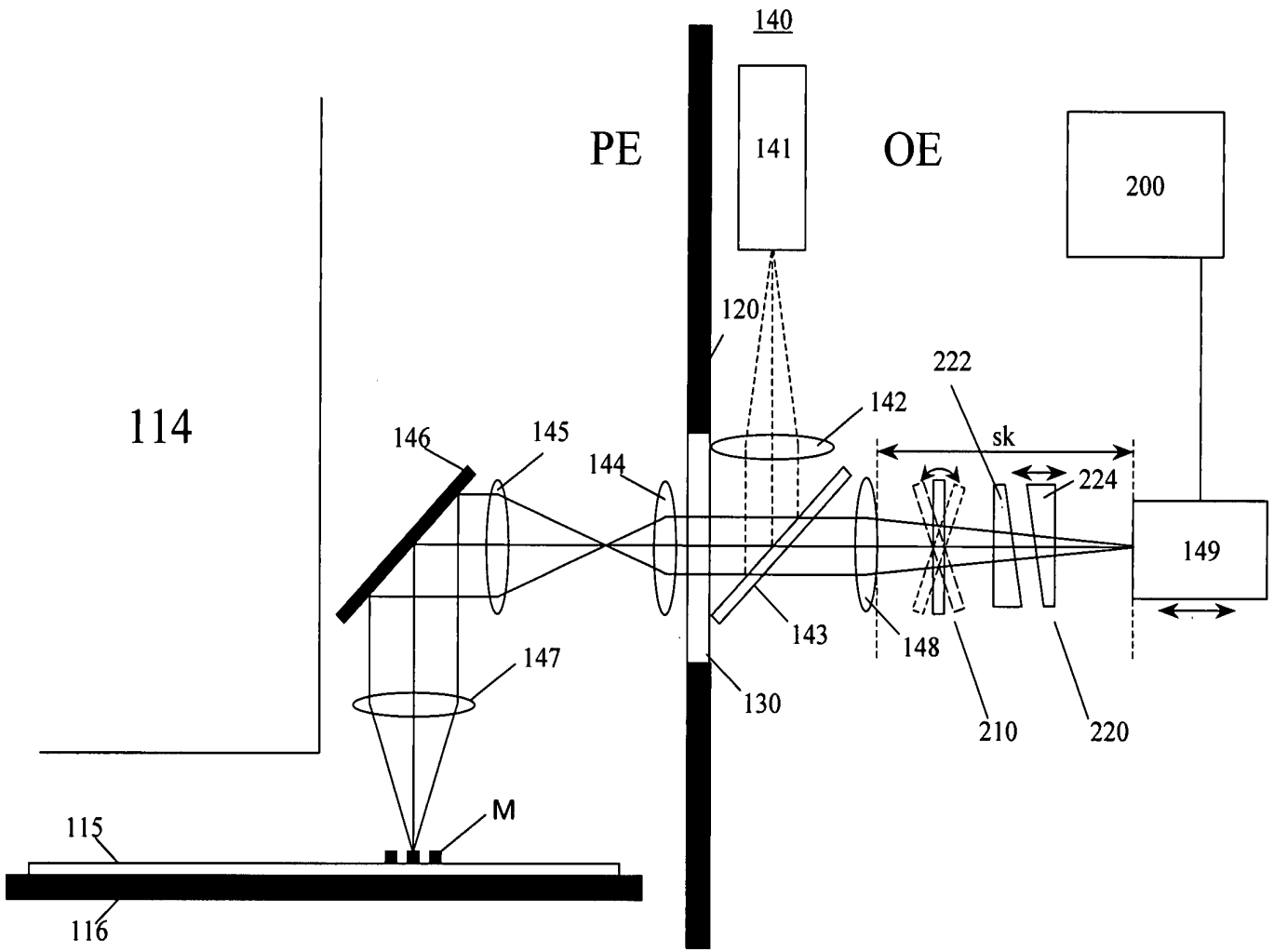

140
PE
141
OE
200
120
222
114
142
146
145
144
sk
224
149
143
148
147
130
210
220
M
115
116

FIG. 3

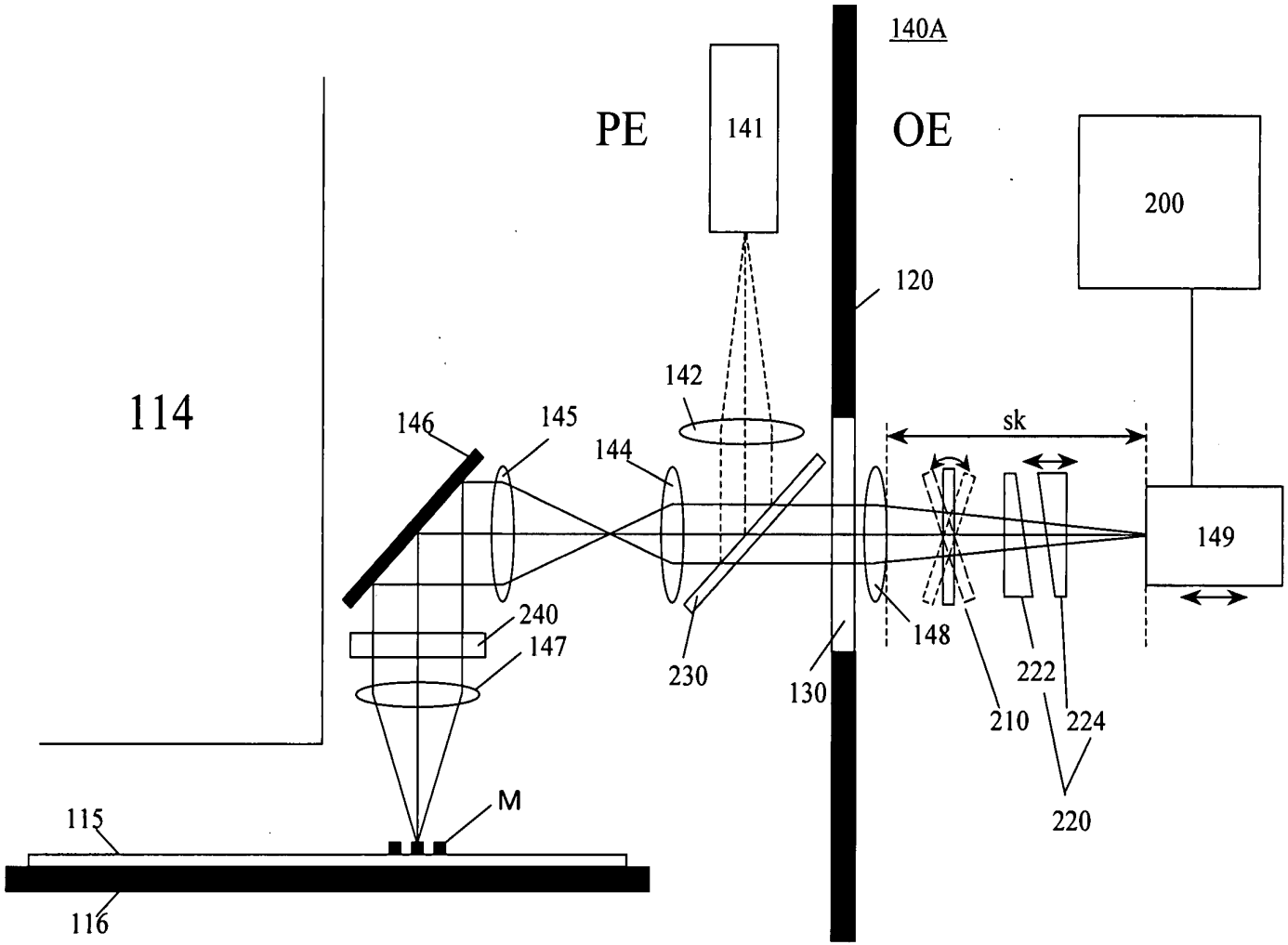

140A
PE
141
OE
200
120
114
142
146
145
144
sk
149
240
147
230
130
148
222
210
224
220
M
115
116

FIG. 4

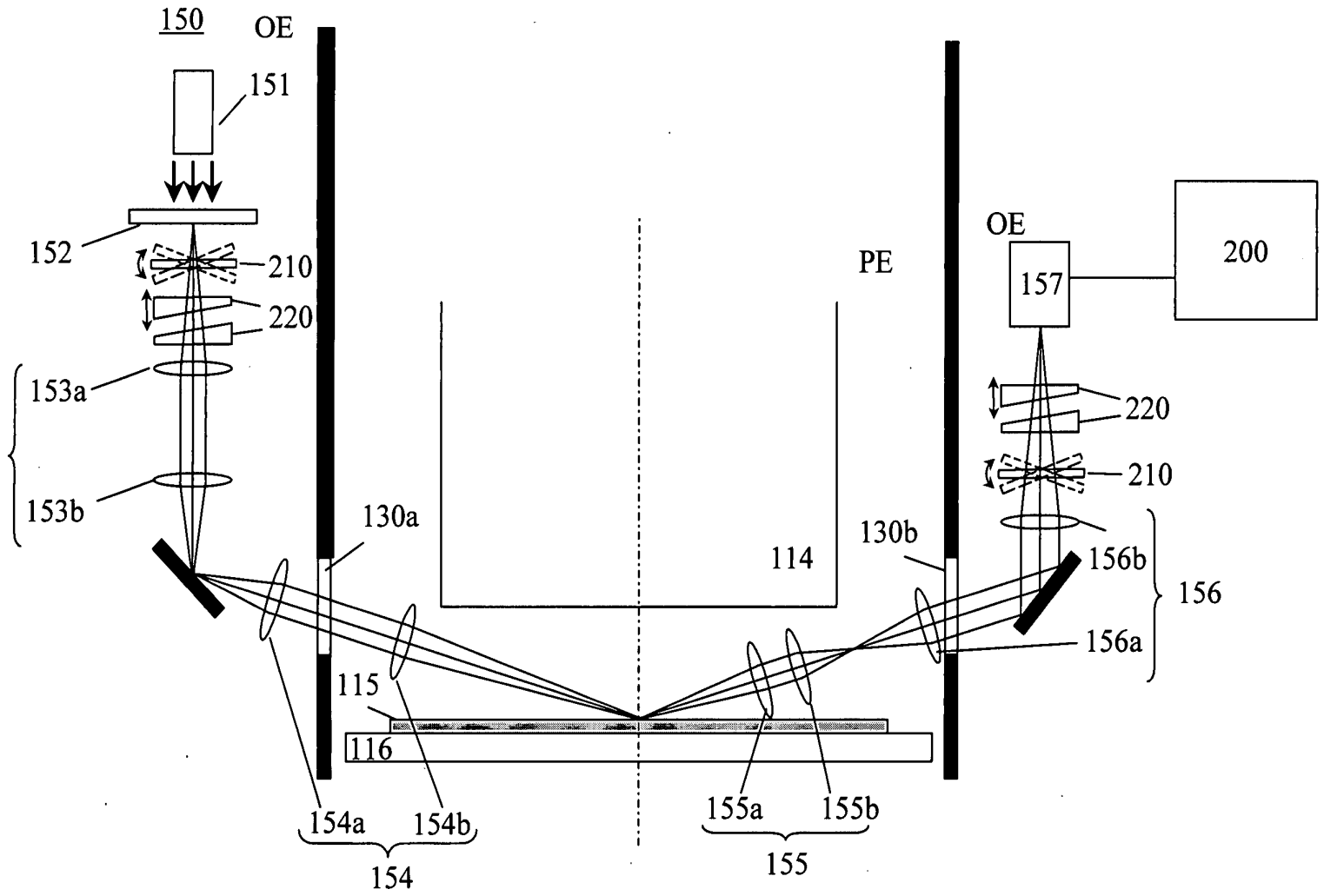

150
OE
151
152
210
220
153a
153b
130a
114
PE
130b
OE
157
200
220
210
156b
156
156a
115
116
154a
154b
154
155a
155b
155

FIG. 5

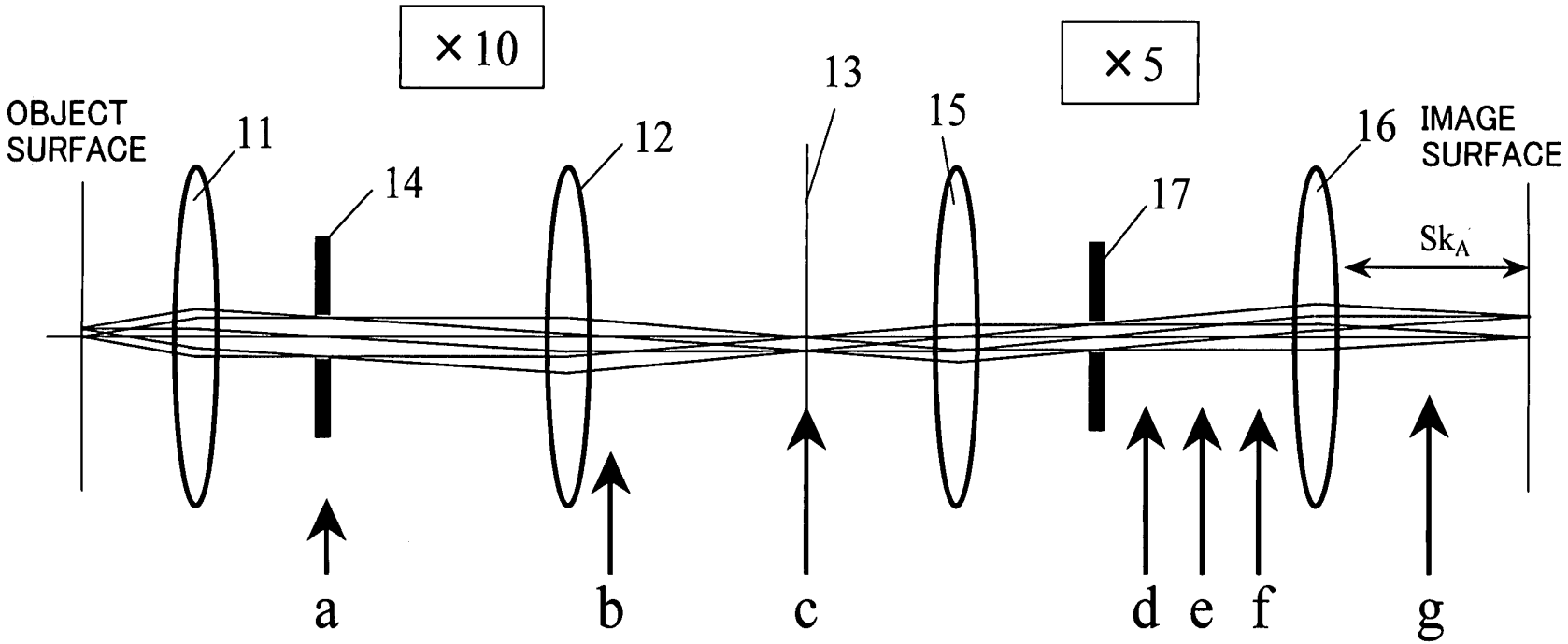

×10
×5
OBJECT SURFACE
11
14
12
13
15
17
16
IMAGE SURFACE
Sk_A
a
b
c
d
e
f
g

FIG. 6

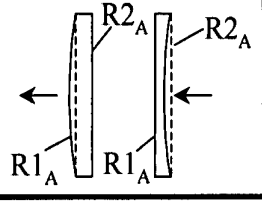
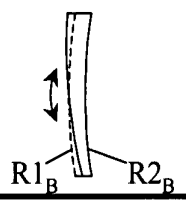
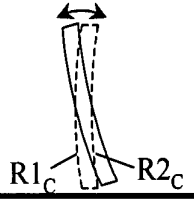
	A		B		C			
	DEFORM EACH SURFACE		INCLINED DECENTER FOR EACH SURFACE (COLOR SHIFT ("CS"))	COLOR SHIFT PER SURFACE ("CSS")	INCLINED DECENTER (CENTER WAVELENGTH)			COLOR SHIFT
	Sk_A	β_A	dy_BCS	dy_BCSS	dy_C	wah_C	wac_C	dy_CCS
a	-2.80	1.15	-1.23	5.11	0.05	-6.50	-0.66	0.15
b	255.40	-1.69	0.47	0.37	-30.74	95.33	1.00	0.06
c	1.60	-1.15	0.09	0.04	-30.77	88.83	0.85	0.09
d	1.00	1.00	1.00	1.00	1.00	1.00	0	1.00
e	0.90	0.85	0.99	2.88	0.99	1.00	0	1.00
f	0.80	0.77	0.98	4.63	1.00	1.00	0	1.00
g	1.40	-1.08	0.09	5.30	4.78	0.17	0	0.10
DEFORMATIONS AND DECENTERS								

FIG. 7

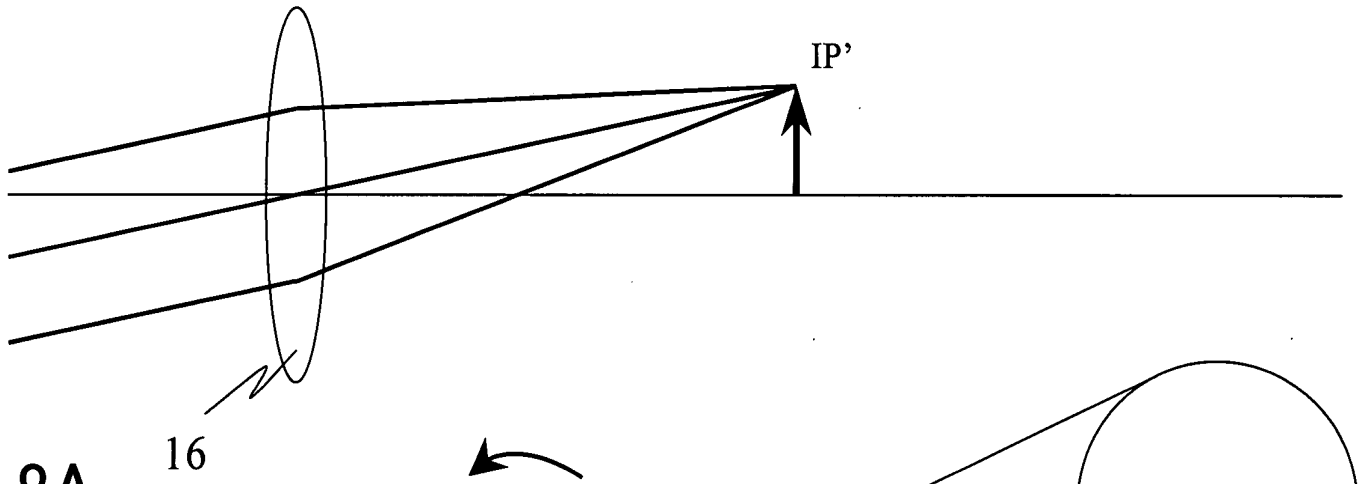


FIG. 8A

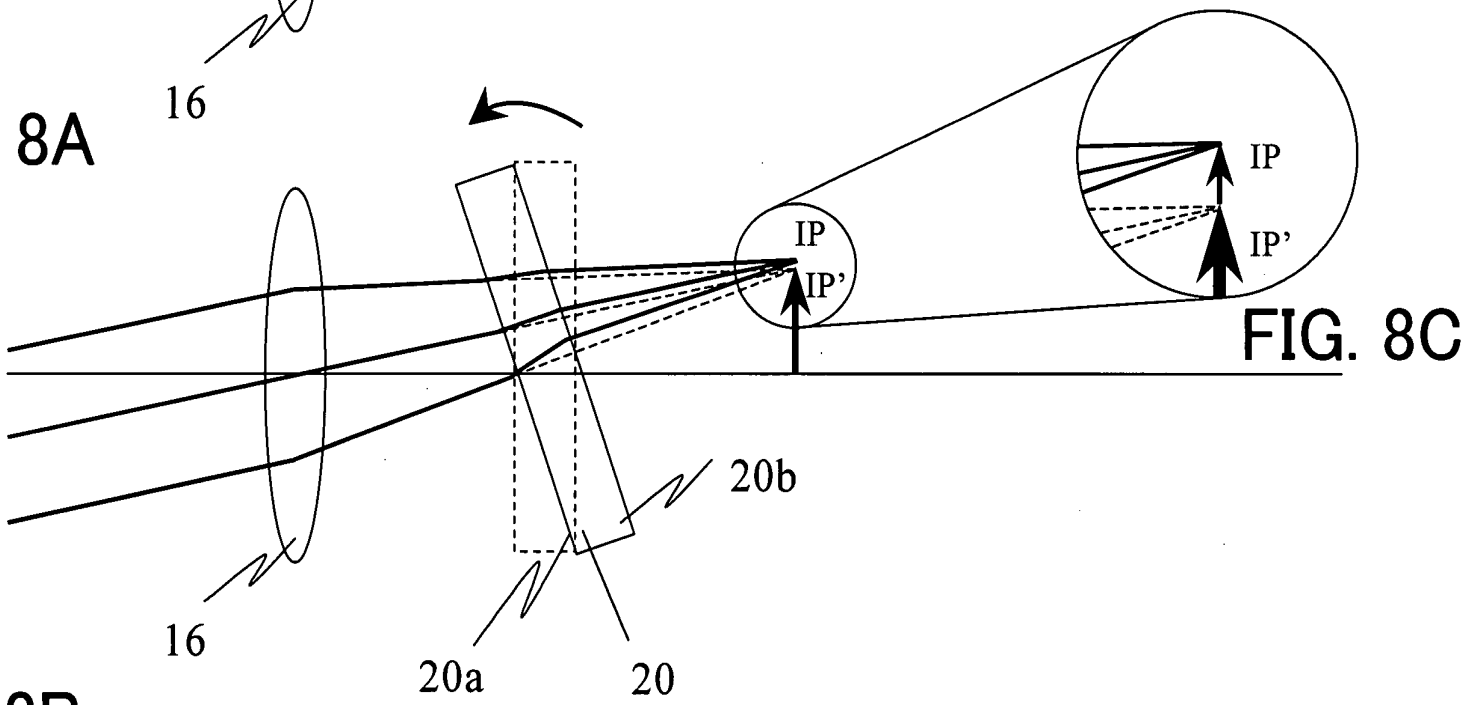


FIG. 8C

FIG. 8B

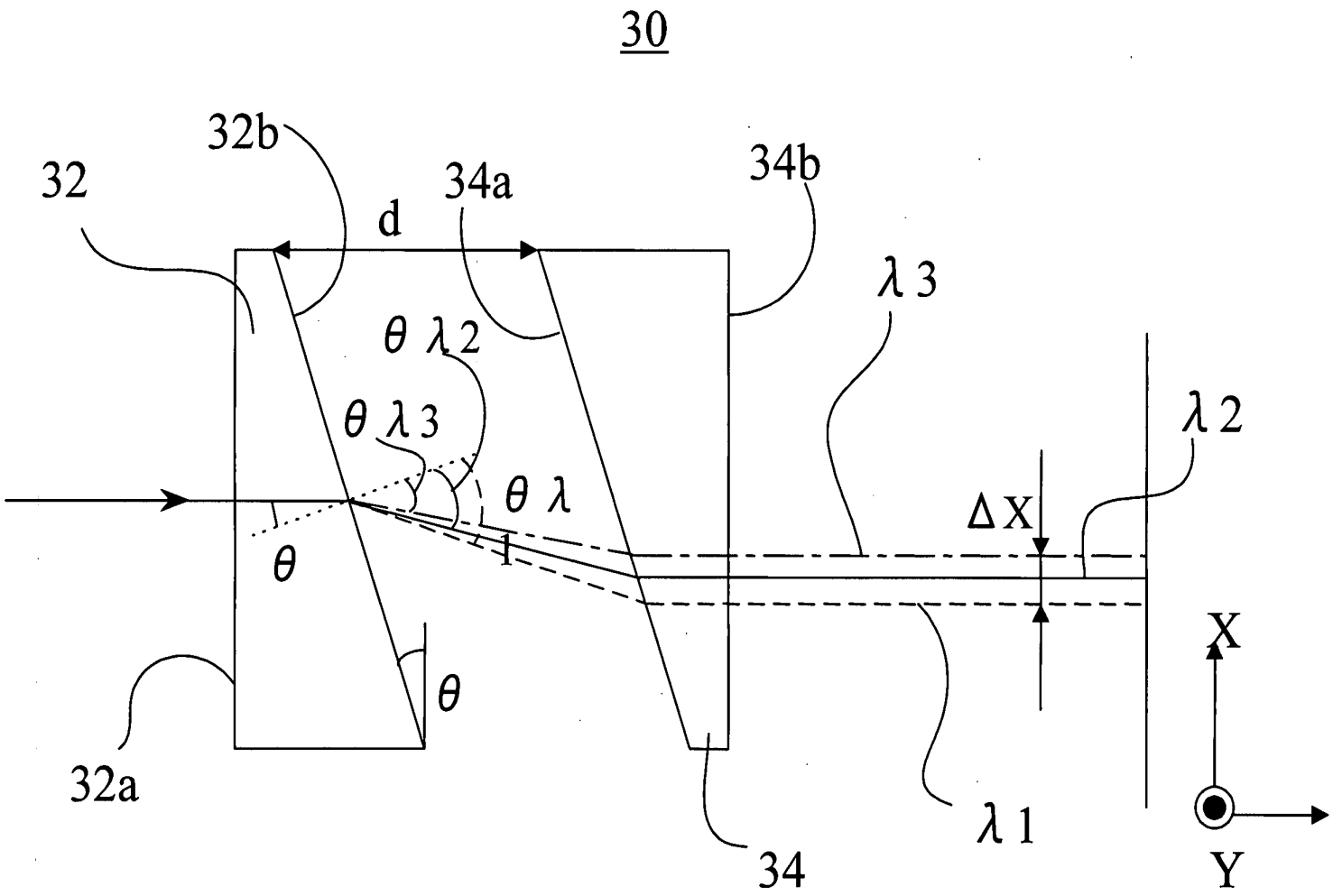


FIG. 9

FIG. 10A

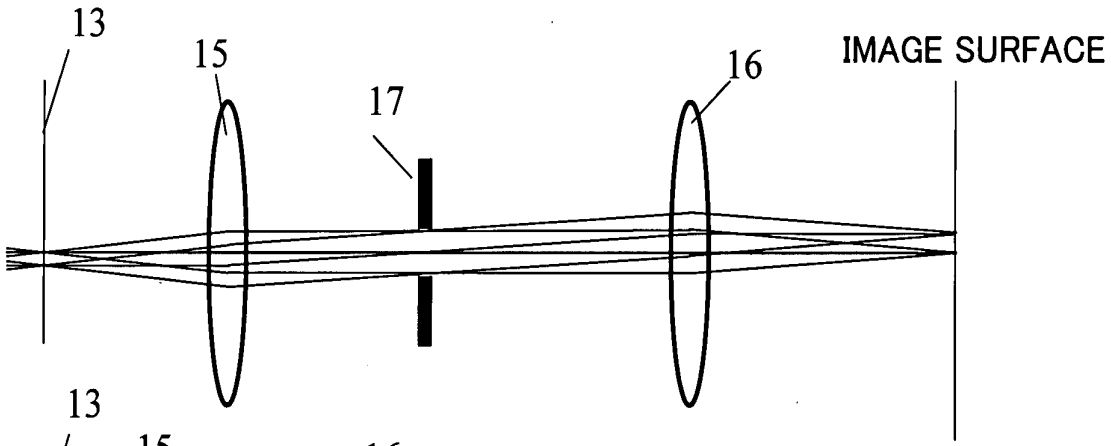


FIG. 10B

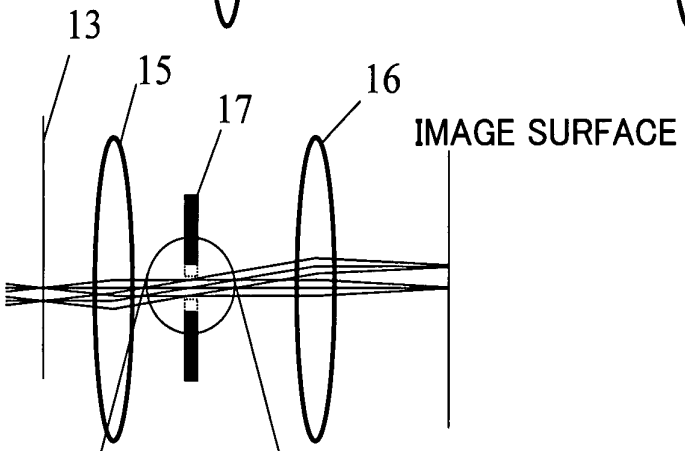
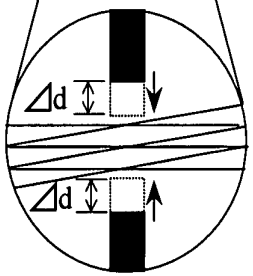


FIG. 10C



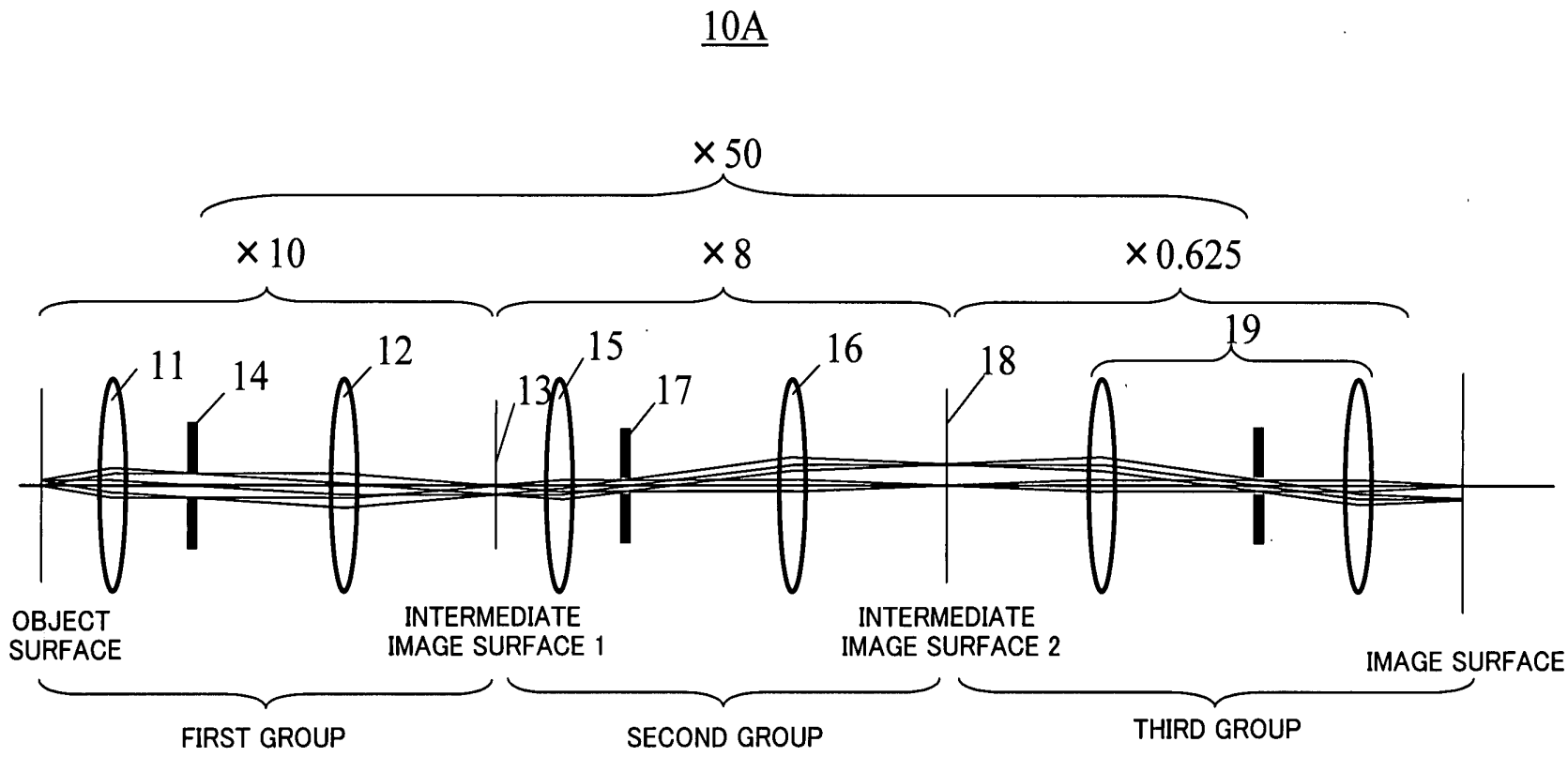

10A
×50
×10
×8
×0.625
11
14
12
15
13
17
16
18
19
OBJECT SURFACE
INTERMEDIATE IMAGE SURFACE 1
INTERMEDIATE IMAGE SURFACE 2
IMAGE SURFACE
FIRST GROUP
SECOND GROUP
THIRD GROUP

FIG. 11

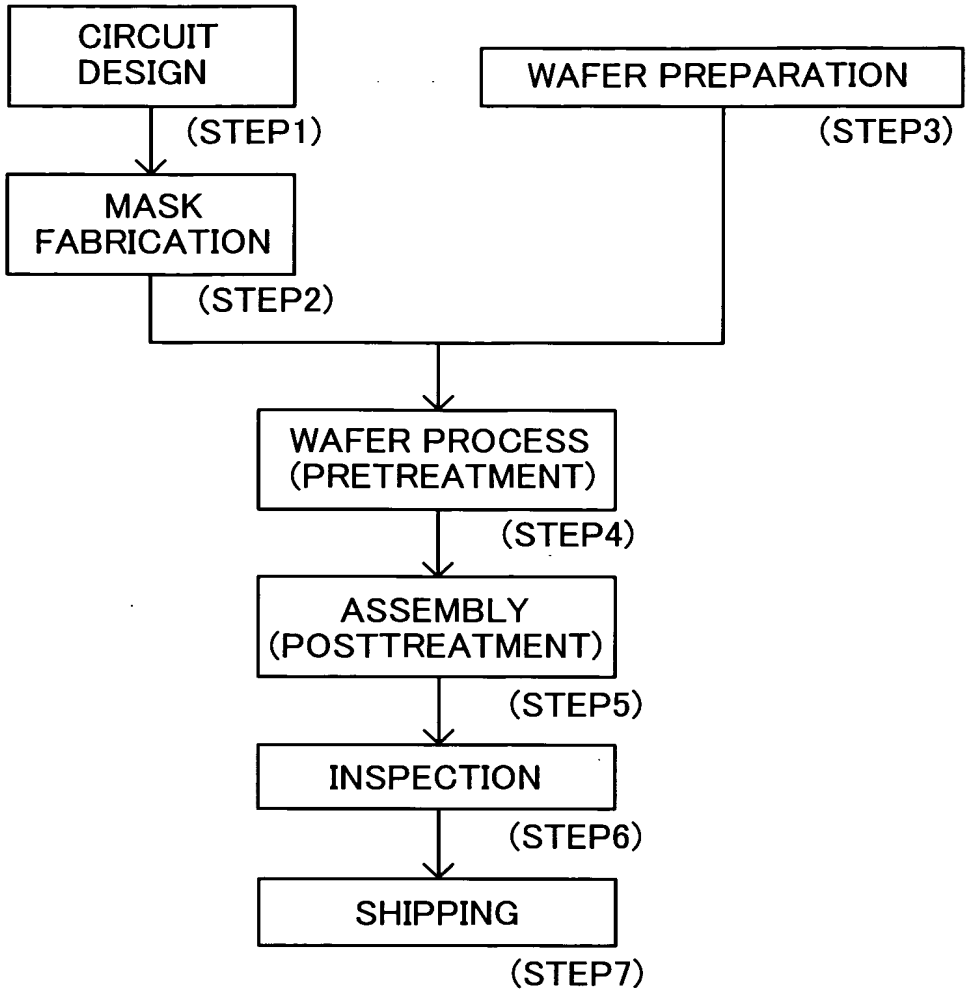

CIRCUIT DESIGN
(STEP1)
MASK FABRICATION
(STEP2)
WAFER PREPARATION
(STEP3)
WAFER PROCESS (PRETREATMENT)
(STEP4)
ASSEMBLY (POSTTREATMENT)
(STEP5)
INSPECTION
(STEP6)
SHIPPING
(STEP7)

FIG. 12

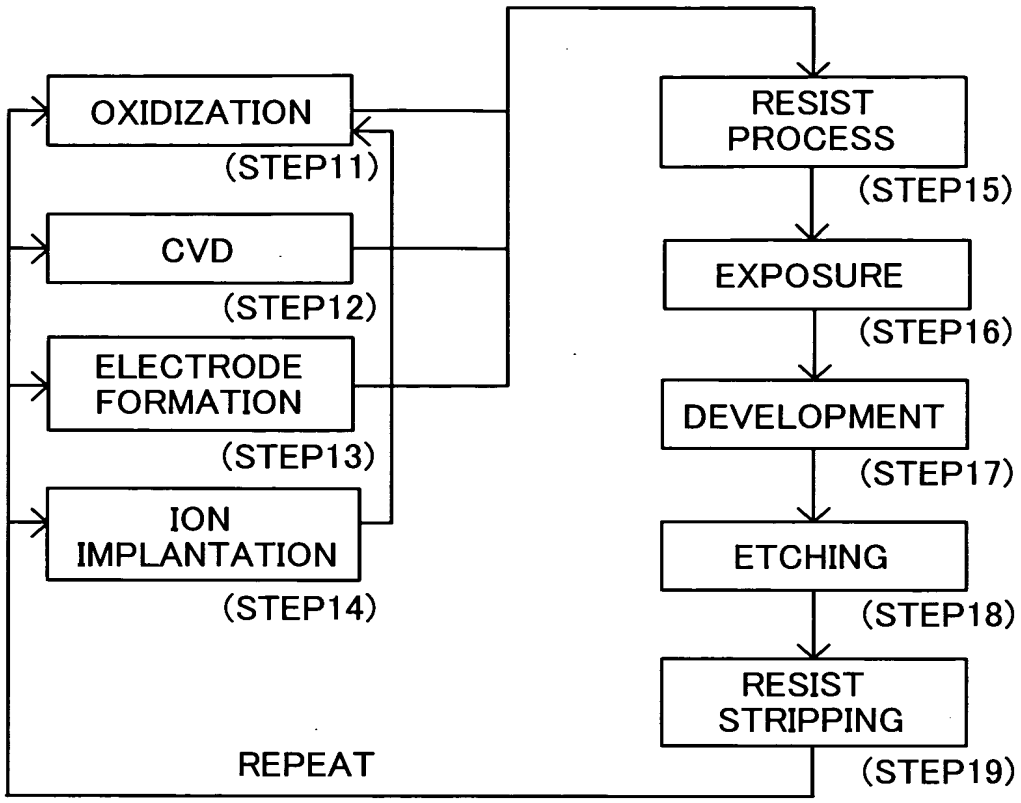

OXIDIZATION
(STEP11)
CVD
(STEP12)
ELECTRODE FORMATION
(STEP13)
ION IMPLANTATION
(STEP14)
REPEAT
RESIST PROCESS
(STEP15)
EXPOSURE
(STEP16)
DEVELOPMENT
(STEP17)
ETCHING
(STEP18)
RESIST STRIPPING
(STEP19)

FIG. 13

PRIOR ART

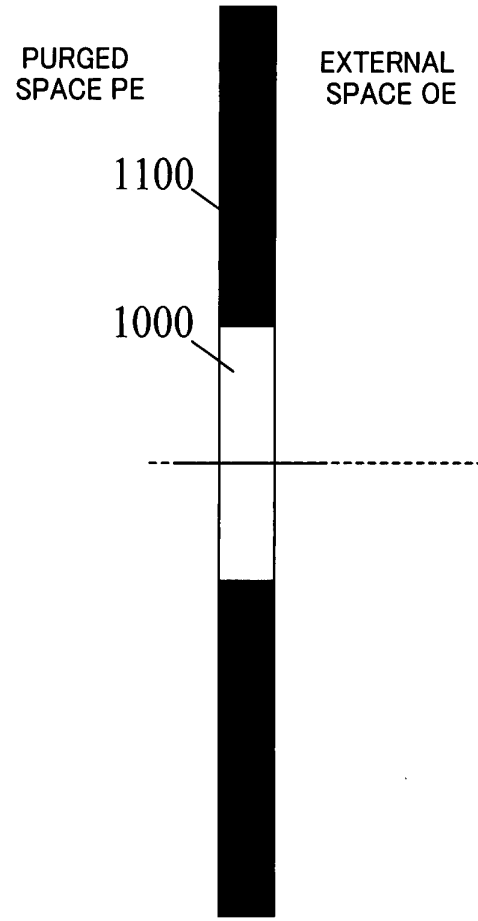


FIG. 14A

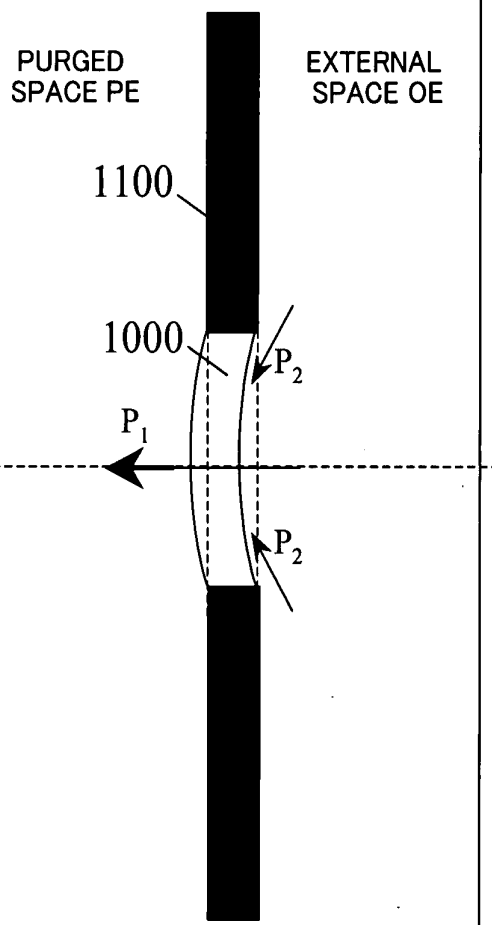


FIG. 14B

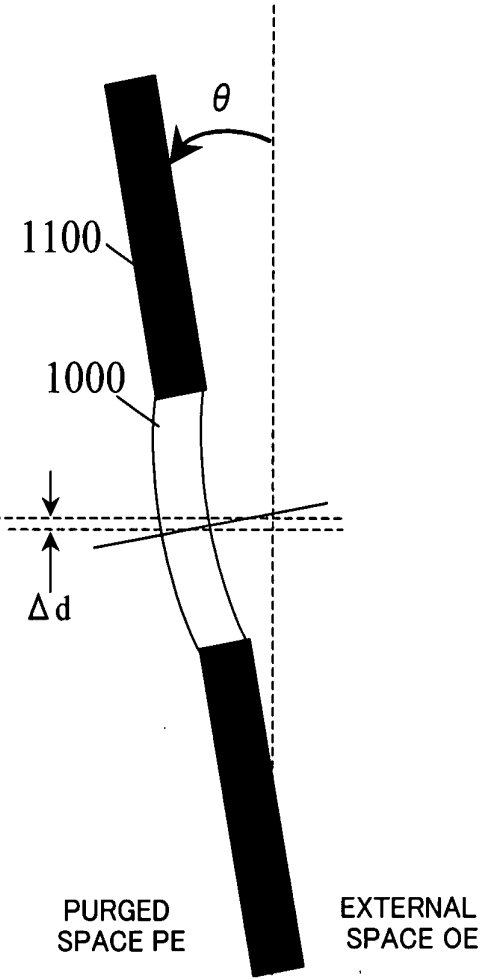


FIG. 14C